

In the Drawings:

The attached sheets of drawings include changes to Figs. 1A and 2A.

Annotated sheets and replacement sheets are attached. Approval is requested.

REMARKS

As a preliminary matter, applicants appreciate the allowance of claims 3-7 and 15-18, and the indication that claims 9 and 12-14 are directed to allowable subject matter.

Referring to the objection to the drawings, Figs. 1A and 2A have been amended. Fig. 1A now uses language which corresponds more closely with the specification, and Fig. 2A does not have reference numerals not used in the specification. Applicants respectfully submit that reference numerals are unnecessary in Figs. 1A and 2A because those figures merely describe general principles of flow rate measurement. Withdrawal is requested.

Claim 8 stands rejected under § 102 on the basis of Kohno et al. US '708. Applicants respectfully traverse this rejection because Kohno does not disclose (or suggest) measuring a flow rate with a plurality of measuring units that use mutually different measuring principles, as in amended claim 8.

In amended claim 8, a flow rate measurement unit is shared by a first flow rate measurement unit using a transit time method and a second flow rate measurement unit using a pulse Doppler method, both of which use an ultrasonic wave.

By contrast, Kohno et al. merely disclose a technique of detecting a measurement error, in the so-called transit time method, by comparing the measured value (voltage) and two voltage values of a first and a second voltage. Kohno et al. do not disclose (or suggest) using in combination a first flow rate measurement unit using a transit time

method and a second flow rate measurement unit using a pulse Doppler method. Withdrawal is requested.

Claim 11 stands rejected under § 102 on the basis of Lowell et al. US ‘347. Applicants traverse this rejection because Lowell does not disclose (or suggest) a measuring flow rate with multiple transducers that use mutually different measurement principles.

In claim 11, a hardware unit is claimed clearly describing a first flow rate measurement unit using the pulse Doppler method, and a second flow rate measurement unit using a transit time method.

By contrast, Lowell et al. merely disclose a flow rate meter using a time difference method in which a plurality of pairs of transmitter are disposed as a phase array. Lowell et al. do not disclose (or suggest) a pulse Doppler method.

Accordingly, withdrawal of this rejection is also requested.

Claim 10 stands rejected under § 103 on the basis of Kohno and Feller US ‘371. The present claim 10 is dependent on claim 8, and as different measuring methods using an ultrasonic wave, measuring methods using each of a pulse Doppler method and time transit method are used therein.

By contrast, Feller merely discloses, in a flow rate meter using a transit time method, a technique of detecting a phase difference of output signals from a plurality of transducers during the interval of an acoustic transmission, and of adjusting an error by compensating for a phase difference in electronic circuitry attached to each transducer. Feller does not disclose using in combination a transit time method and a pulse Doppler

method. The term "Doppler" is not used in Feller. Therefore, combining Kohno and Feller would not lead to the present claim 10, in which a pulse Doppler method and a transit time method are used in combination. Withdrawal is requested.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By



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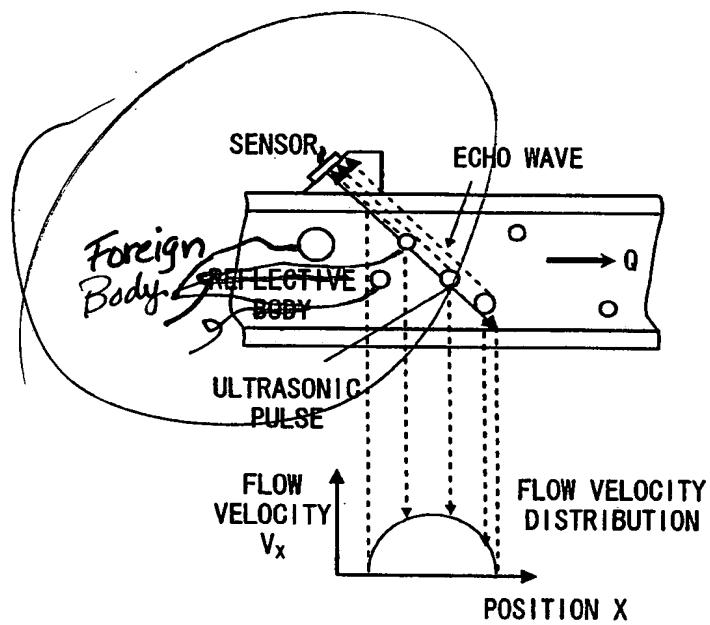
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PATENT & TRADEMARK OFFICE

ULTRASONIC FLOWMETER... S.N. 10/590,393
Kishiro et al. - 1503,75736
Greer, Burns & Crain, Ltd. (Patrick G. Burns)
ANNOTATED SHEET (312) 360-0080

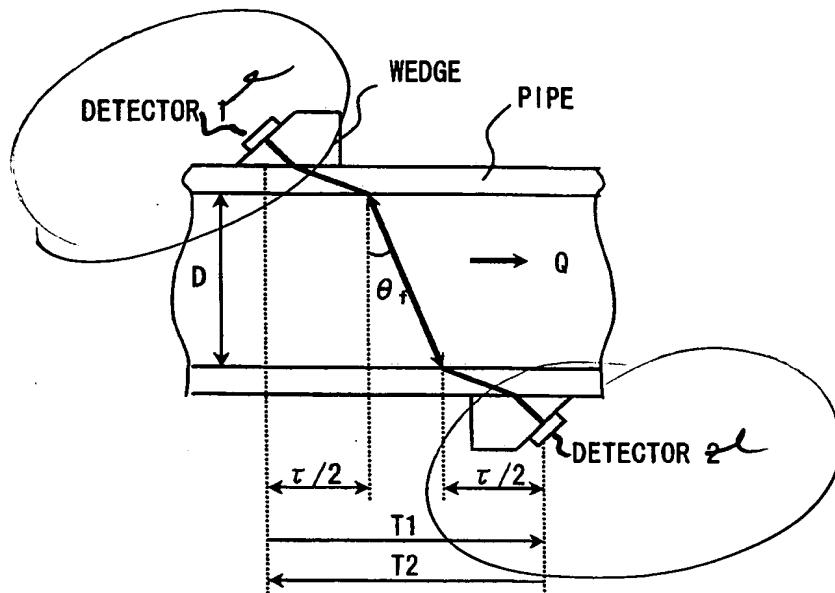
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CONFIGURATION OF PULSE DOPPLER METHOD

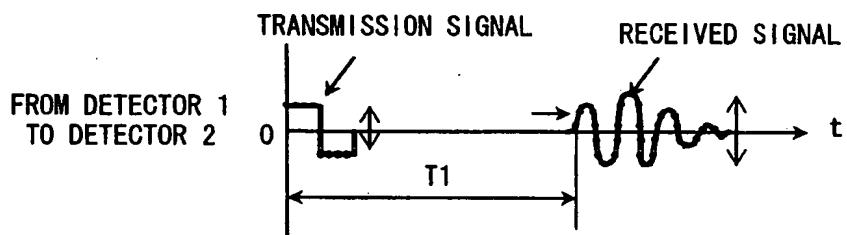
F I C 1 A

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CONFIGURATION OF TRANSIT TIME METHOD

F I G. 2 A



FROM DETECTOR 1 TO DETECTOR 2

F I G. 2 B